EXAGRID®

Bureau of Reclamation Replaces Quantum with Next-Gen ExaGrid

— BUREAU OF —
RECLAMATION

USA

Key Benefits:

- No more system downtime and resulting customer support battles

- Integration with Veeam delivers flexibility, speed, and reliability

- Volumes and apps that used to take too long to back up are now protected

- Goal is in sight – increase retention from 1 month to 12-24 months

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Eric Fahrenbrook
IT Specialist

Customer Overview

Established in 1902, the Bureau of Reclamation is best known for the dams, power plants, and canals it has constructed in the 17 western states. These water projects led to homesteading and promoted the economic development of the West. As the second largest producer of hydropower in the U.S., Reclamation has constructed more than 600 dams and reservoirs, including Hoover Dam and Grand Coulee, and operates 53 hydroelectric power plants.

The Bureau of Reclamation is the largest wholesaler of water in the country, bringing water to more than 31 million people, and providing irrigation water for 10 million acres of farmland.

Hardware Failures Drive Change

After taking a hard look at maintenance costs, the Bureau of Reclamation decided to reevaluate its backup storage process to improve recovery time in the event of a disaster.

Reclamation had a Quantum solution that had reached the point of endless maintenance due to failed hard drives. "We would call Quantum support, and it was always a nightmare trying to fight through contracts to make something happen. We're backing up over 90TB of data and simply cannot afford constant interruptions and downtime," said Eric Fahrenbrook, IT specialist for the Bureau of Reclamation.

Failed hardware continued to frustrate the IT staff at Reclamation, and there was no choice but to seek an alternative backup storage solution. "I was fed up with our former solution and began looking for a next-gen solution. My goal was to completely get rid of tape," said Fahrenbrook.

ExaGrid Selected over Dell EMC Data Domain and Quantum to Meet KPIs

The Bureau of Reclamation completed a comparison with ExaGrid, Quantum, and Dell EMC Data Domain. Reclamation was on its way to becoming 100% virtualized and had already chosen Veeam as its backup software. "I liked the fact that ExaGrid worked so well with Veeam and had many features that I found important – scalability, cache, replication, data deduplication, and the landing zone for instant restores. I also liked the fact that ExaGrid had self-encrypting drives. A lot of the solutions have that, but it's not supported by the right process. Because the other vendors only store deduplicated data, that data requires rehydration before you can do a restore. Now, in fair terms, we're running Veeam, and there
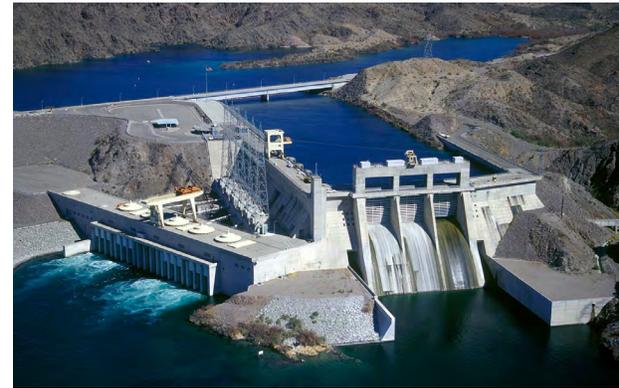
are certain things that you can do only with the combination of ExaGrid and Veeam. However, the complete package made the decision easy for us, and we went with ExaGrid. The flexibility, speed, and reliability reinforce our decision weekly.

"We've gotten to the point where we're running synthetic fulls on some of the bigger 15TB volumes like Splunk and our imaging applications that we've never been able to back up, and we're able to back those up fairly quickly. I was only able to retain 25 to 30 days with Quantum, and we're setting up a two-site system with ExaGrid to increase that. While building out the GRID, I'll have more compute power for dedupe and compression. When I did the math, I'll be able to retain at least a year on the ExaGrid system with a goal of two years by 2018," said Fahrenbrook.

Because Reclamation has a government mandate to keep data indefinitely, they push data to tape as needed as they continue to build out their long-term storage plan.

Easy Install and Intelligent Support Team

"Installation was a slam dunk. You put the appliances in, connect some power cords, make sure the network is set up, add IP information, reboot, and 'boom' – it's part of the scale-out architecture," said Fahrenbrook.

"ExaGrid's customer support is always really good. I love how they assign a specific support engineer for customers to work with. You're not always getting a different guy on the phone, and spending time bringing them up to speed. We had one issue with how we throttled the ExaGrid system, but once that was fixed, we haven't had a problem in months; our assigned support engineer helped us work through it. Our replication is reliable and stays up to speed. Everything is perfect."

The ExaGrid system was designed to be easy to set up and operate. ExaGrid's industry-leading level 2 senior support engineers are assigned to individual customers, ensuring they always work with the same engineer. Customer's never have to repeat themselves to various support staff, and issues get resolved quickly.

Disaster Recovery Provides Insurance Needed

According to Fahrenbrook, ExaGrid gives him peace of mind. "Once in a while, I'll check on the system, but it's always doing what it's supposed to be doing. I feel really good about our DR site knowing I can easily bring data back and spin it up with Veeam," he said.

On average, Reclamation sees a 7:1 dedupe ratio post Veeam. Reclamation's infrastructure is 100% virtualized, so things are very efficient to support future growth.

"I am really happy. The reason I bought it, again, is because I wanted to keep things consistent and be able to get our data on disk for up to a year. The support is the biggest thing – it's very streamlined and ExaGrid continues to innovate. I love that their R&D is forward-thinking, and that right there makes me want to be a customer for a long time."

Veeam-ExaGrid Dedupe

Veeam uses changed block tracking to perform a level of data deduplication. ExaGrid allows Veeam deduplication and Veeam dedupe-friendly compression to stay on. ExaGrid will increase Veeam's deduplication by a factor of about 7:1 to a total combined deduplication ratio of 14:1, reducing the storage required and saving on storage costs up front and over time.

Scale-out Architecture Provides Superior Scalability

The Bureau of Reclamation has a two-site ExaGrid system with appliances in Denver, CO and Boulder City, NV. Reclamation will continue to build out its sites to meet its mid- and long-term KPIs.

ExaGrid's award-winning scale-out architecture provides customers with a fixed-length backup window regardless of data growth. Its unique disk-cache Landing Zone allows for the fastest backups and retains the most recent backup in its full undeduplicated form, enabling the fastest restores.

ExaGrid's appliance models can be mixed and matched into a single scale-out system allowing a full backup of up to 2.7PB with a combined ingest rate of 488TB/hr, in a single system. The appliances automatically join the scale-out system. Each appliance includes the appropriate amount of processor, memory, disk, and bandwidth for the data size. By adding compute with capacity, the backup window remains fixed in length as the data grows. Automatic load balancing across all repositories allows for full utilization of all appliances. Data is deduplicated into an offline repository, and additionally, data is globally deduplicated across all repositories.

This combination of capabilities in a turnkey appliance makes the ExaGrid system easy to install, manage, and scale. ExaGrid's architecture provides lifetime value and investment protection that no other architecture can match.

About ExaGrid

ExaGrid provides Tiered Backup Storage with a unique disk-cache Landing Zone that enables fastest backups and restores, a Repository Tier that offers the lowest cost for long-term retention and enables ransomware recovery, and scale-out architecture which includes full appliances with up to 2.7PB full backup in a single system.

Learn more at **www.exagrid.com**.

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